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ABSTRACT

This environmental unit is one of a series designed for integration within the existing curriculum. The unit is self-contained and requires little teacher preparation. The philosophy of the unit is based on an experience-oriented process that encourages self-paced independent student work. In this unit, young primary school children are encouraged to explore a natural area through outdoor activities. They work in small groups to observe, compare, arrange, and communicate their discoveries. This investigation is set up as a game. Students are given containers with natural items collected from the area and with photographs of representative sites in the area. Their goal is to identify and collect items similar to those in the containers and to identify the areas in the photographs. All items are to be brought back to the classroom for study and exchange. Information for teachers includes a list of materials needed, directions for the activities, and field trip preparations. (MA)

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A Teacher's Preparation for

Nature Hunt

An Environmental Investigation into Similarities and Differences in the Natural World

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MINNESOTA ENVIRONMENTAL SCIENCES FOUNDATION, INC.

THE ENVIRONMENTAL UNITS

This is one of a group of Environmental Units written by the Environmental Science Center and published by the National Wildlife Federation.

In both theory and practice education is the essential base for long-range local, regional and national programs to improve and maintain the quality of environment necessary for man's welfare and survival. Citizens must be aware of ecological relationships in order to recognize, appreciate and fulfill constructive roles in society. This awareness should be launched through the existing educational process—in classroom and related school activities. No special courses on ecology can replace the need to integrate ecological learning throughout the existing curricula of our school systems. Furthermore, the life-styles and value-systems necessary for rational environmental decisions can best be acquired through repeated exposure to ecological learning which pervades the total educational experience.

It was with these thoughts that we developed these curriculum materials. They were designed for the classroom teacher to use with a minimal amount of preparation. They are meant to be part of the existing curriculum—to complement and enhance what students are already experiencing. Each unit is complete in itself, containing easy-to-follow descriptions of objectives and methods, as well as lists of simple materials.

The underlying philosophy throughout these units is that learning about the environment is not a memorization process, but rather an experience-oriented, experiment-observation-conclusion sort of learning. We are confident that students at all levels will arrive at intelligent ecological conclusions if given the proper opportunities to do so, and if not forced into "right" answers and precisely "accurate" names for their observations. If followed in principle by the teacher, these units will result in meaningful environmental education.

In the process of development, these units have been used and tested by classroom teachers, after which they have undergone evaluations, revisions and adaptations. Further constructive comments from classroom teachers are encouraged in the hope that we may make even more improvements.

A list of units in this group appears on the inside back cover.

About the National Wildlife Federation—1412 Sixteenth Street, N.W., Washington, D.C. 20036

Founded in 1936, the National Wildlife Federation has the largest membership of any conservation organization in the world and has affiliated groups in each of the 50 states, Guam, and the Virgin Islands. It is a non-profit, non-governmental organization devoted to the improvement of the environment and proper use of all natural resources. NWF distributes almost one million copies of free and inexpensive educational materials each year to youngsters, educators and concerned citizens. Educational activities are financed through contributions for Wildlife Conservation Stamps.

About the Environmental Science Center—5400 Glenwood Avenue, Minneapolis, Minnesota 55422

The Environmental Science Center, established in 1967 under Title III of the Elementary and Secondary Education Act is now the environmental education unit of the Minnesota Environmental Sciences Foundation, Inc. The Center works toward the establishment of environmental equilibrium through education—education in a fashion that will develop a conscience which guides man in making rational judgments regarding the environmental consequences of his actions. To this end the Environmental Science Center is continuing to develop and test a wide variety of instructional materials and programs for adults who work with youngsters.

Nature Hunt

An Environmental Investigation

BY

NATIONAL WILDLIFE FEDERATION

MINNESOTA ENVIRONMENTAL SCIENCES FOUNDATION, INC.

Design and Illustrations by

JAN BLYLER

Nature Hunt gets young children involved in outdoor activities. It also gives experience in several disciplines which relate to primary school curriculum. The children will experience the workings of nature during the course of the unit, and this, hopefully, will form a basis for continued enthusiasm about the environment.

The success of **Nature Hunt** depends upon small groups interacting, exchanging observations, and discussing their findings. The unit can be instructive for both you and your students. It can also be fun.

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INTRODUCTION

Nature Hunt is set up as a game. On a trip to a local natural area or park, small groups of children are given Nature Hunt containers which hold a collection of natural items found in the park: soil samples, rocks, and so forth. The children are also given some photographs of areas in the park.

The point of the game is to locate items as similar to those in the container as possible, and to determine where the photographs were taken. The children will collect these matching items and other items they find interesting. In addition, they will collect evidence that humans use the park. All of this will lead to sharing reactions and communicating through language, art, and music.

We have suggested some ways to put together the Nature Hunt containers, including information on what items each might contain. These suggestions are flexible and lend themselves to variation. The unit can be used in cities and deserts alike. Experience with your own class will probably give you ideas for variations that work best with your own students.

The pre-trip activities take several days. The major outdoor activities take most of a day and can be planned as a field trip to a local natural area or park. The post-trip activities can extend beyond a week if desired.

The activities in this unit are intended to help youngsters in these learning areas:

1. **Observing**—opening eyes, seeing details.
2. **Comparing**—noting similarities and differences.
3. **Arranging**—putting natural items in "some" order.
4. **Re-arranging**—putting the same items in a different order.
5. **Becoming aware of the environment**—appreciating the role of our surroundings in relation to our lives.
6. **Noticing human use of nature**—seeing how people fit into their immediate surroundings as well as the larger world.
7. **Communicating**—sharing ideas through discussion, conversation, tape recordings, art work, experience charts, stories, poems, etc.
8. **Thinking creatively**—considering extended use of an area by special groups, such as grandparents, crippled children, and so forth.

MATERIALS

- camera
- film
- small plastic bags
- three-pound coffee cans or shoe boxes (5 or 6)
- labels—heavy duty; or cardboard for making labels
- tagboard for name tags—several different colors
- large brown paper bags
- pencils
- crayons
- scissors
- drawing paper
- construction paper
- plastic spray (optional)
- stapler
- 3 x 5 cards

Nature Hunt

Preparation

Allow yourself a week prior to the trip to complete the preparations:

A. For the Field Trip

MATERIALS

photographs	*plastic spray*
three-pound coffee cans or shoe boxes	*3 x 5 cards*
plastic bags	*cardboard or labels*
	stapler

1. Select a natural area or park nearby.
2. Take photographs of the following:
   a. Landmarks—five or six different ones.
   b. Views of any water area, river, creek, swamp, or lake—ten or more.
   c. Trees that can be easily distinguished—ten or more.
   d. Special features—soil erosion areas, fallen trees, fire area, etc. Try to include at least six features, or one for each group of children.
3. Have these photographs developed and printed. Have the clear pictures enlarged to 5 x 7 or a size convenient for the children's use. (This may take a week.) When you are finished taking the pictures and having them printed, you may have 30 or more photographs, all of which might be different. For some things such as trees, you may want to have a few views taken from different angles. The pictures should be divided up equally among your Nature Hunt containers.
4. Collect items at the park or the natural area you have selected. Collect only items whose absence will not damage living things. Make sure you have one of each type of item for every group in the class. You will want four or five children in each group. (You will probably have five or six groups, so you will want five or six of each item.) Although it is not necessary, it will add variety to the nature hunt activity if you select different types of each item for the Nature Kit. For example, under the category "dead leaves," you could try to get samples from a variety of trees—oak, hickory, aspen, etc. Then each Nature Hunt container could have a different kind of dead leaf.

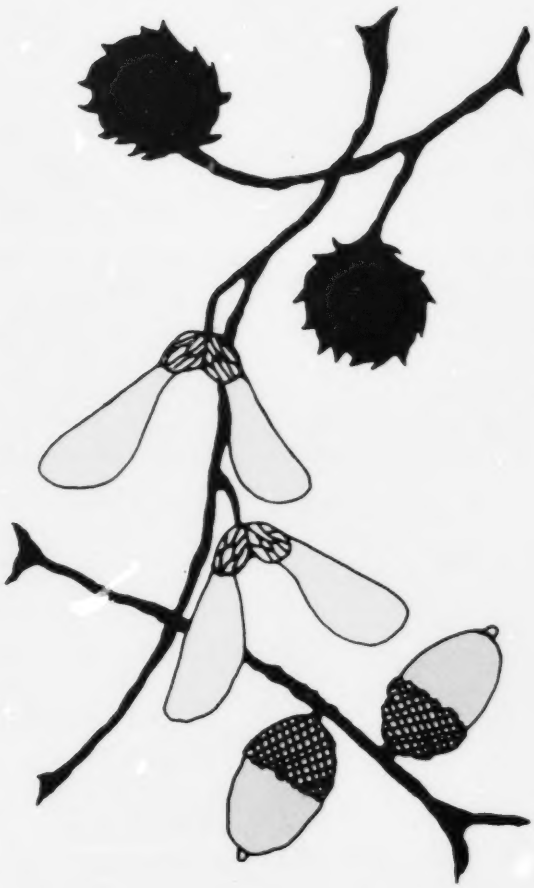
   a. Collect **dead leaves** (6) of several varieties.

   b. Select **weeds** (6) of different sizes.

   c. Try to find **seeds** and **seed pods** (6).

   d. Collect **rocks** (6) of different sizes, shapes and colors.

   e. Collect **acorns** (6) or other types of nuts such as hickory nuts, black walnuts, beech nuts.



f. **Pine cones** (6) may be available, too.

g. Try to locate five or six different colored **soils** or different textured soils (sand, black top soil, clay, etc.).

h. **Rotting** or **charred wood** samples (6) should be abundant.

i. Collect **green leaves** (6) to contrast with the dead leaves you've already gathered.

j. Gather some **bark** samples (6) **from the ground only.**

5. If you want to save items for use next year, spray the appropriate items with plastic.
6. Using 3 x 5 cards, prepare sets of "feely" cards. Each card should contain one word describing a "feel," and all sets should contain the same group of words. Words you might use are: fuzzy, crispy, prickly, bumpy, rough, smooth, squeezy, fluffy. There should be as many sets of the cards as there are kits.

7. Prepare and label the containers. If you have six groups, you will need six containers and six sets of materials.

For your Nature Hunt containers, use either three-pound coffee cans or shoe boxes. Mark each container carefully with a different number, writing the respective numbers on both the containers and the covers.

In each container, include the following:

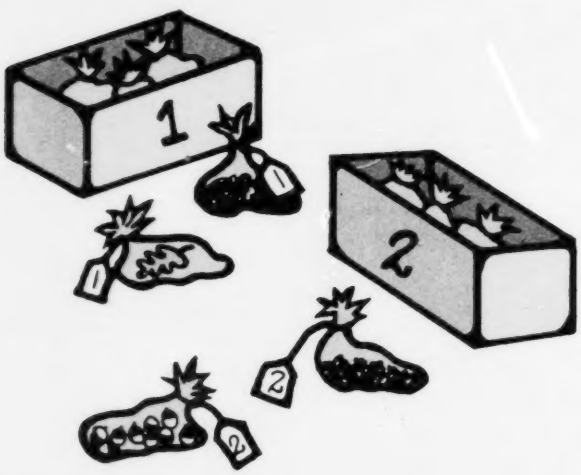
a. A total of at least four photographs, one each of:

- A landmark—man-made or natural
- A water area—one view
- A tree
- A special feature

Label all photographs with the number of the container they are in. Wait until the day of the field trip to put the photographs in the containers, because the moisture on the natural items may warp the prints and ruin them.

b. One or more green leaves
c. One or more dead leaves
d. One or more weeds
e. One or more rocks
f. One or more soil samples
g. One or more bark samples (from the ground)
h. Other things which are appropriate—

Each item should be put in individual plastic bags. Number all the items using tags which can be purchased or made from cardboard. All items for Nature Hunt container #1 should have "#1" written on their tags; those in container #2 should have "#2" on their tags, etc. One good way to attach the number tag to the plastic bag would be with staples.



i. A set of "feely" cards

Number the cards so that all the cards in a given kit show that kit's number. When on the nature hunt, the children will look for an item that feels like the word. There's a lot of room here for innovation. For example, instead of words describing a feel, you might want to use a color word.

Later on, in the pre-trip arrangements, the children will make personal name tags. Each team should have a different number, corresponding to the number of that team's Nature Kit. All members of each team should have the team number on their name tags. This should help the members of each group know who else is on their team and it will also help in getting all of the parts of each container back together again after those activities which involve mixing the contents of the containers.

Another way to label the kits and their contents, without using numbers, would be to use a color code. This way, all the samples in one container might have a red tag, all the samples in another container a green tag, and so forth. When the children make their own personal name tags, the individual teams could use a color of paper for their tags which corresponds to the color of their particular Nature Kit labels.

B. For the Classroom

MATERIALS
tag board

1. Prepare word cards naming, describing, or relating to the items you are actually including in the hunt. These cards are for use in the class and are distinct from the "feely" cards. They will probably include some of the following:

a. Leaf	m. Pine cone
b. Leaves	n. Seed
c. Plant	o. Seed pod
d. Weed	p. Wood
e. Rock	q. Charred wood
f. Soil	r. Fuzzy
g. Bark	s. Prickly
h. Creek	t. Bumpy
i. River	u. Rough
j. Sand	v. Smooth
k. Dead leaves	w. Squeezy
l. Acorn	x. Fluffy

2. Prepare any other word cards you feel would be appropriate to the group. Some suggestions:

a. Nature Hunt	k. Coffee can
b. Like	l. Numeral
c. Similar	m. Tag
d. Park	n. Item
e. Walk	o. Picture
f. Bus	p. Photograph
g. Trip	q. Arrange
h. Plastic bag	r. Re-arrange
i. Container	s. Humans
j. Box	t. Evidence

C. Pre-trip Arrangements

MATERIALS

note cards *large brown paper bag*
construction paper for name tags (several colors)

1. You might need to charter a bus.
2. You will probably need permission slips for the trip.
3. It would be helpful if a parent could assist each group in answering questions, observing reactions of the children, and taking notes.
4. Prepare name tags for each group, consisting of: a different color for each group or a numeral for each group which corresponds to the Nature Hunt container it will receive, and the child's name.

5. Label several note cards with the group numeral and parent's name. The parent can also wear a tag for identification. The parents can use the cards to take notes of interesting happenings during the nature hunt.
6. Label a large brown paper bag for each group. Use the group numeral and the parent's name. This will be for collecting evidence of humans' presence (paper, cans, etc.).

Classroom Activities

MATERIALS

blocks *leaves*
rulers *containers*
grass *photographs*
word cards

• Introduce the concept of "alike" and "similar."

Select man-made items that are exactly alike by most outward appearances—two blocks, two rulers, two coffee cans, etc. Point out their exact likenesses. Select two blades of grass, two leaves, two rocks, and two pieces of bark, and point out their similarities. It is very hard to locate two blades of grass, two

leaves, two twigs, or two rocks, that are exactly alike. Explain to the class that these are "similar," that is, they are the same kind of item, from the same plant, of the same color or texture.

People can be very exacting in looking for similarities (leaves could be considered similar only if they are from the same kind of tree), or people can be very loose in looking for similarities (any two leaves could be considered similar just because they are leaves).

On the first day of this study, present the class with a contrast between man-made items and natural items by using the distinction between the words "alike" and "similar." Have examples available. On the second day ask the children to bring in items or tell about items they found and discuss their "alikeness" or "similarity."

- **Introduce the containers.**

  1. Show the class one container.
  2. Indicate the labeling by numeral and explain its purpose. The coding, again, could be by color instead of number, or by both.
  3. Show them that in each container all numerals are the same.
  4. Examine and display all the items.
  5. Bring out the other containers and have groups of children examine them and their contents.
  6. Exchange containers if there is time.
  7. Have the class make comparisons between the containers.

- **Have the children:**

  1. Discuss the items, numerals, and containers and the purpose for the coding.
  2. Arrange the items.
  3. Re-arrange the items. You can even mix the contents of one container with another. The coding will help you get them back together again.
  4. Play with the contents (this activity can spread over several days).
  5. Study the word cards and match the appropriate ones with the items.

- Re-sort by placing all labeled items back in the proper Nature Hunt container.
- Place several empty small plastic bags into each container.
- Place the photographs into the containers on the day of the trip. If you are using a three-pound coffee can, curve the photographs inside. Do not fold or bend them sharply. Remove them when you return to the school.

Field Trip

MATERIALS

Nature Hunt containers ***brown paper bags***

Arrange for meeting times—where, when, who. After explaining the schedule to the students and parents, your class will be ready to begin the field activities.

Suggested order of activities:

1. One-half to one hour of free exploration (the members of each group of four or five children should stay within sight of their parent leader).

2. Pass out a Nature Hunt container to each group.
3. Give each parent a large brown paper bag, several note cards and a pencil.
4. A good way to conduct the Nature Hunt would be to have the parents give their group of four or five children the items one at a time from the kit and then have the children go out in their groups looking for a matching item. It is best for the parents to keep members of their group in sight. When the children find a match, they should return to the parent, put the sample in the **Nature Kit** with the match they have found, and then receive the next item. It is not necessary to mark the objects the children find. These objects can be put in the container loosely. When it comes to finding objects described by "feely" cards, the same procedure will do.
5. Few if any contributions which the children make will be incorrect. Almost any item the children find will have some attribute shared by the sample item from the Nature Hunt container. The parent can ask the children what specific similarity they see as they furnish each match. This will help them clarify their thinking. Place these items either directly in the container or in a plastic bag and then into the container.
6. When the children are hunting for the locations in the photographs, encourage them to discuss among themselves what it is they are seeking and where it is likely to be found. Have the entire group of four or five determine the location. Ask the parent to jot down any interesting conversations or debates that went on, as well as whether or not the group was successful in locating the spot.
7. Ten to twenty minutes before leaving, the children can use the brown paper bag to collect "evidence" that humans use the area—cans, old newspapers, paper cups, wrappers, etc. They can mentally note things like picnic tables, swings, and so forth.

Post-trip Activities

A. Putting Things in Order

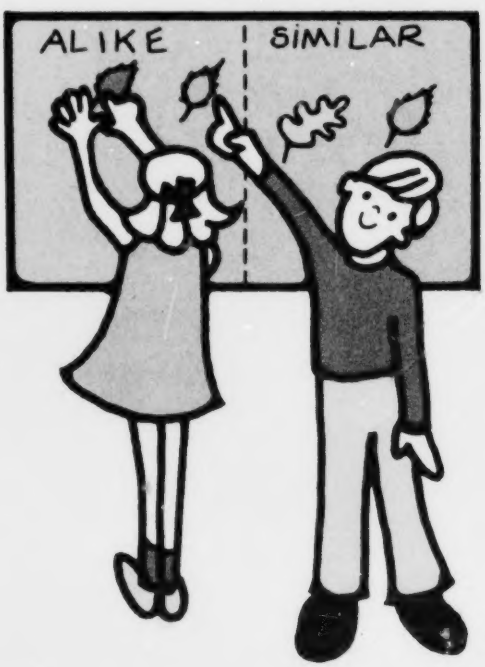
1. Have the children remove the photographs from the containers to avoid ruining them.
2. Collect the parents' note cards for your own use in evaluating and stimulating discussions.
3. Have the children display all the items from each group in a separate area, identifying the display with the number or color code of each group.

4. Each team will have come back to class with a container full of materials they found. The children may have forgotten some of the characteristics they used to match certain items, and therefore forget which items matched. This doesn't matter—the overall purpose of this unit will still be served by the activity itself.

   For example, suppose one team's original container has three leaves in it—one dried leaf, one green leaf, and one leaf that has begun to turn colors. Assume that all three leaves are from different trees and that the dried leaf is from an oak. The team may find a dried leaf which doesn't come from an oak tree and match it with the dried oak leaf in the plastic bag. But it may be that the dried leaf the children found is from the same tree as the green leaf in the **Nature Hunt Kit.** Therefore, when the children get back to the classroom, some of the team members may want to match the dried leaf which they found, with the **green** counterpart from the **Kit** (because of its shape), instead of with the **dried** one in the **Kit.** If this happens, it will serve to demonstrate that things can be *similar* in a variety of ways.

5. Suggest that the children arrange each display with "alike" and "similar" materials together.

6. Display the "human evidence" separately.



B. Sharing Ideas and Reflections

1. Discussion—either as a whole class or in small groups.
2. Experience chart—this will be a large sheet of poster paper on which you record the experiences related by the students in class discussions.
3. Class-built story—a composite story told by the whole class or representative members from each team, describing the field trip activities.
4. Invite a person (principal) or group (another class) to your classroom to hear about the trip.

C. Recording Personal Responses

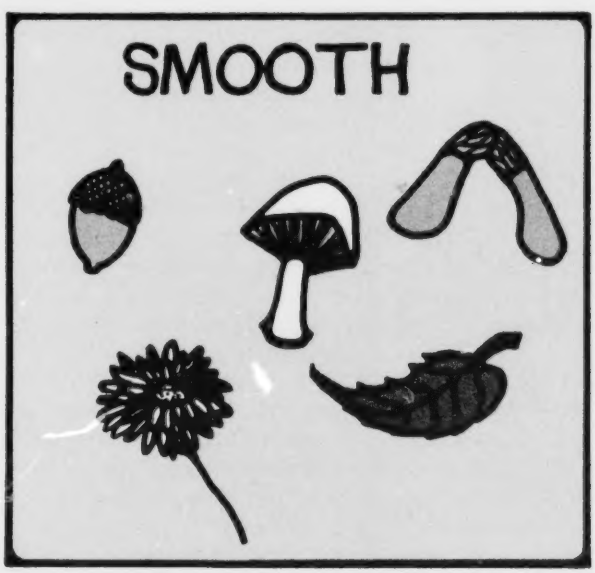
1. Drawing or painting of memories
2. Tape recording children's personal reflections
3. Tape recording story or poem

D. Other Things To Do

1. Have the students write a poem.
2. Have the students develop a melody to fit the poem.
3. Have the class draw pictures of some events of the trip and display them in order.

E. Re-ordering Items

1. Have the children remove the items from the display and re-order them. Encourage all the children to spend time arranging and re-arranging the items into *sets* of "like" or "similar" items.
2. Have individuals or groups create displays using a word card and all items that can be associated with it.



F. Discussion Suggestions:

1. Personal responses to any part of the trip
2. Sharing insights
3. Sharing ideas about an arrangement of items
4. Review "alike" and "similar"
5. Examine evidence that humans use the park. Ask such things as:
   - "What is it?"
   - "What is it used for?"
   - "Where was it found?"
   - "Does this tell you anything about the people who left it?"
6. Ask the children about uses of the area
   - How do kindergarteners use the park?
   - How do parents use the park?
   - How do grandparents use the park?
   - How could the park be made more fun for kindergarteners, parents, grandparents, crippled children, etc.?

G. Activities for Older Children (2nd and 3rd grade)

Develop a chart of materials and word cards. For the vertical and horizontal axes on this chart use the words written on the "feely" cards. The chart should be large enough so that each object the children found on their walks will fit on a block. The chart might look like the one on page 12.

In the boxes the children can put objects that can be described by the corresponding words on both axes. For example, a leaf could be smooth on one side and prickly on the other. A coma from a milkweed could be both smooth and fluffy. It also could be fuzzy. There are many different possibilities with a chart like the one drawn.

The children will probably have some ideas of their own for making other kinds of charts. For example, they might suggest having a chart with "feely" words on the horizontal axis and with names of colors in the vertical column. This type of activity could also be valuable in helping children make some generalizations. For instance, in a chart with colors across the bottom and descriptive adjectives on the vertical axis, the children might find that none of the green items they located, whether they be weeds, leaves, or grass, could accurately be described as bumpy. However, nearly all the green items might tend to be squeezy.

These kinds of activities and related ones are intended to help the children inspect and describe the objects they have found and also to see that there are a number of different ways to describe a single item.

FOR DISCUSSION

Things can be similar. Things can be alike.

Things can be similar in a variety of different ways.

Things can be alike in a variety of different ways.

Things can be different in the same way. And so on.

fuzzy							
Crispy							
Prickly							
Bumpy							
Smooth							
Squeezy							
Fluffy							
	Fluffy	Squeezy	Smooth	Bumpy	Prickly	Crispy	Fuzzy

THE ENVIRONMENTAL UNITS

Below is a list of the twenty-four titles in the Environmental Discovery Series. Next to the titles, we have suggested the grades for which each is most appropriate. We emphasize that these are suggested grade levels. The teacher is encouraged to adapt the activities to a wide range of grade levels and subject areas depending upon the interests and abilities of the students.

Order No.	Title	Grade Level	Price	Order No.	Title	Grade Level	Price
79007	Plants in the Classroom	3-6	$1.50	79123	Genetic Variation	4-9	$1.50
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